

### Abstract of the Disclosure

A rotor 33, 133 for use in an electrical machine 100 having permanent magnets 34, 134 included therein, each permanent magnet 34, 134 between an adjacent pair of poles 32, 132, wherein each adjacent  
5 pole 32, 132 has an opposite polarity. Each permanent magnet 34, 134 has a magnetization polarity on its radially-outward surface 38, 138, and each adjacent permanent magnet 34, 134 has the opposite polarity on its radially-outward surface 38, 138. In addition,  
10 each pair of permanent magnets 34, 134 have the same magnetic polarity on their adjacently facing surfaces. This arrangement of permanent magnets 34, 134 may be used on electrical machines 100 having either a Lundell-type rotor 33 or salient pole rotor 133. The  
15 arrangement of permanent magnets 34, 134 increases the output power and efficiency of the electrical machine 100 while decreasing magnetic noise.